

Claims:

1. A hot-fillable plastic container, comprising:
a blow molded plastic container body having a circular base, a finish
opposite said base, and a sidewall extending therebetween;
a portion of said sidewall having a plurality of panels positioned
circumferentially about said sidewall portion to form a multi-
sided sidewall structure;
each adjacent pair of panels interconnecting to form an obtuse angle
therebetween and to form a continuous longitudinally-
extending post structure therebetween; and
at least selected ones of said panels having a section thereof formed
outwardly bowed of the container at a radius of curvature
within a predetermined range of radius of curvatures;
whereby, when the container is hot-filled and capped and as the hot-filled and capped
container is permitted to cool, said outwardly bowed section flattens to accommodate
induced vacuum created within the capped and filled container.
2. A hot-fillable plastic container according to claim 1, wherein said sidewall
has an outwardly extending, circumferentially-disposed, circular bumper.
3. A hot-fillable plastic container according to claim 2, wherein at least
selected ones of said panels have an inset reinforcement area adjacent said bumper,

each of said inset areas extending between an adjacent pair of post structures and terminating a spaced distance from said post structures, whereby said inset areas function to reinforce and strengthen said bumper and post structures to prevent deformation thereof.

4. A hot-fillable plastic container according to claim 3, wherein said bumper is a lower label bumper located adjacent said base, and wherein said outwardly bowed sections of said panels are located above said inset areas.

5. A hot-fillable plastic container according to claim 1, wherein said outwardly bowed sections of said panels flex inwardly when said container is hot-filled and capped and as the hot-filled and capped container is permitted to cool to accommodate induced vacuum created within the capped and filled container.

6. A hot-fillable plastic container according to claim 3, wherein said sidewall portion includes at least five panels each having an as-formed outwardly bowed section and an inset reinforcement area.

7. A hot-fillable plastic container according to claim 6, wherein said sidewall portion is formed from six identical panels positioned side by side.

8. A hot-fillable plastic container according to claim 1, wherein said radius of curvature of each of said outwardly bowed sections extends on a plane perpendicular to an imaginary central axis extending longitudinally through the container.

9. A hot-fillable plastic container according to claim 8, wherein said radius of curvature of each outwardly bowed section varies as said outwardly bowed section extends in a direction parallel to said imaginary central axis.

10. A hot-fillable plastic container according to claim 9, wherein said radius of curvature of each outwardly bowed section increases as said outwardly bowed section extends toward said finish.

11. A hot-fillable plastic container according to claim 9, wherein said radius of curvature of each outwardly bowed section decreases as said outwardly bowed section extends toward said finish.

12. A hot-fillable plastic container according to claim 9, wherein said range of radius of curvatures includes a maximum radius of curvature and a minimum radius of curvature, and wherein said maximum radius of curvature is within 5% of said minimum radius of curvature.

13. A hot-fillable plastic container according to claim 1, wherein said sidewall portion having said panels provides a label mounting area, and wherein said sidewall includes a circular upper label bumper above said label mounting area and a circular lower label bumper below said label mounting area.

14. A hot-fillable plastic container according to claim 1, wherein said finish is selected from the group consisting of an upstanding threaded narrow neck finish, an upstanding threaded wide mouth finish, an upstanding injection molded finish, and an upstanding blown finish.

15. A hot-fillable plastic container, comprising:

a blow molded plastic container body having a circular base, a sidewall, a circular lower bumper between said base and sidewall, and a dome having an upstanding finish opposite said base;

said sidewall having a plurality of panels positioned circumferentially in a side-by-side relationship about said sidewall thereby forming a multi-sided sidewall structure;

each adjacent pair of panels interconnecting to form an obtuse angle therebetween and a vertically-extending post structure which extends continuously through said multi-sided sidewall structure; and

each panel, as-formed, having a section which is arcuate in a plane perpendicular to an imaginary central axis extending longitudinally through the container, each arcuate section providing said panel with a slightly outward bow and having a predetermined radius of curvature within a predetermined range of radius of curvatures, and each panel having an inset circumferentially-extending reinforcement area adjacent said lower bumper, each of said inset areas extending between an adjacent pair of said post structures and terminating a spaced distance from said post structures to reinforce and strengthen said circular lower bumper and post structures, and each of said arcuate sections of said panels flexing inwardly for accommodating induced vacuum created when the container is hot-filled, capped and cooled.

16. A hot-fillable plastic container according to claim 15, wherein said sidewall has at least five of said panels.

17. A hot-fillable plastic container according to claim 16, wherein said radius of curvature of said arcuate sections varies as said arcuate sections extend in a direction parallel to said imaginary central axis.

18. A hot-fillable plastic container according to claim 16, wherein said radius of curvature of said arcuate sections decreases as said arcuate sections extend toward said base.

19. A hot-fillable plastic container according to claim 16, wherein said radius of curvature said arcuate sections increases as said arcuate sections extend toward said base.

20. A hot-fillable plastic container according to claim 18, wherein said range of radius of curvatures includes a maximum radius of curvature and a minimum radius of curvature, and wherein said maximum radius of curvature is within 5% of said minimum radius of curvature.